CLAIMS:

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1 1. A circuit to determine a velocity of a coil to 2 which a driving current is applied in a magnetic field, 3 comprising:

a circuit to terminate the driving current in said coil;

a circuit to apply a current to said coil to create a magnetic field to oppose eddy currents established in structures adjacent said coil by said driving current; and

a circuit for measuring a BEMF in said coil after said current has been applied to oppose said eddy currents.

- 2. The circuit of claim 1 wherein said driving current is in a first direction in said coil, and wherein said circuit to apply a current to said coil applies a current in a direction opposite said first direction.
- 3. The circuit of claim I wherein said circuit to apply a current to said coil applies a current for a time directly related to a time that a flyback current appears in said coil above a predetermined magnitude after said driving current has been terminated.
- 4. The circuit of claim 1 wherein said circuit to apply a current to said coil applies a current for a time directly related to a magnitude of the original current command after said driving current has been terminated.
 - 5. The circuit of claim 1 wherein said circuit to apply a current to said coil applies a current for a time directly related to a magnitude of said driving current prior to when said driving current has been terminated.

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- 1. 6. The circuit of claim 1 further comprising a delay 2 element to delay the termination of the eddy current 3 opposing current for a predetermined time.
- 7. A circuit to determine a BEMF voltage of a VCM coil after termination of a driving current in a first current direction in said coil, comprising:
 - a circuit for activating selected VCM coil driver transistors to apply a current to said coil in a direction opposite said first current direction to generate a magnetic field to oppose eddy currents established in structures adjacent said coil by said driving current.
 - 8. The circuit of claim 7 wherein said circuit for activating selected VCM coil driver transistors applies said current to said coil for a time directly related to a time that a flyback current appears in said coil above a predetermined magnitude after said driving current in said first direction has been terminated.
- 9. The circuit of claim 7 wherein said circuit for activating selected VCM coil driver transistors applies said current to said coil for a time directly related to a magnitude of the original current command after said driving current in said first direction has been terminated.
- 1 10. The circuit of claim 7 wherein said circuit for 2 activating selected VCM coil driver transistors applies 3 said current to said coil for a time directly related to a

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magnitude of said driving current prior to when driving current has been terminated.

- 1 11. The circuit of claim 7 further comprising a delay element to delay the termination of the eddy current opposing current for a predetermined time. 3
- 12. A circuit for use in determining a velocity of a 1 head \assembly of a VCM after termination of a driving 2 current in a coil of said VCM, comprising: 3
 - a circuit for activating selected VCM coil driver transistors t_Q apply a current to said coil of said VCM to create a maghetic field that opposes eddy currents established in structures adjacent said coil by said driving current.
 - 13. The circuit δt claim 12 wherein said driving current is in a first current direction and wherein said circuit for activating selected VCM coil driver transistors applies a current to said coil \searrow n a direction opposite said first current direction.
- 14. The circuit of claim 12 wherein said circuit for 1 activating selected VCM coil driver transistors applies a 2 current to said coil for a time directly related to a time 3 that a flyback current appears in said coil above a 4 predetermined magnitude after said driving current has been 5 6 terminated.
- 15. The circuit of claim 12 wherein said circuit for activating selected VCM coil driver transistors applies a 2 current to said coil for a time directly related to a 3

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4 magnitude of the original current command after said 5 driving current has been terminated.

- 1 16. The circuit of claim 12 wherein said circuit for activating selected VCM coil driver transistors applies a current to said coil for a time directly related to a magnitude of said driving current prior to when said driving current has been terminated.
- 1 17. The circuit of claim 12 further comprising a delay 2 element to delay the termination of the eddy current 3 opposing current for a predetermined time.
 - 18. A method for determining a velocity of a coil to which a driving current is applied in a magnetic field, comprising:

terminating said driving curfent;

allowing a flyback current in said coil to reduce to below a predetermined magnitude

applying a current to said coil of magnitude and direction to cancel eddy currents in structures adjacent said coil; and

measuring a BEMF in said coil, wherein a magnitude of said BEMF is directly related to the velocity of said coil.

19. The method of claim 18 wherein said applying a current to said coil comprises applying a current to said coil a time directly related to a magnitude of the original current command.

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- 20. The method of claim 18 wherein said applying a current to said coil comprises applying a current to said coil in a direction opposite said driving current.
- 21. The method of claim 18 wherein said applying a current to said coil comprises applying a current to said coil for a time directly related to a time for said flyback current to reduce to below a predetermined magnitude.
- 22. The method of claim 18 wherein said applying a current to said coil comprises applying a current to said coil a time directly related to a magnitude of said driving current.
 - 23. A method for determining a BEMF voltage of a coil of a VCM after termination of a driving current in said coil, comprising:

determining when said driving current has been terminated; and

activating selected VCM coil driver transistors to apply a current to said coil to create a magnetic field to oppose eddy currents established in structures adjacent said coil by said driving current.

24. The method of claim 23 wherein said driving current is in a first current direction, and wherein said activating selected VCM coil driver transistors comprises activating selected VCM coil driver transistors to create a current in said coil in a direction opposite to said first current direction.

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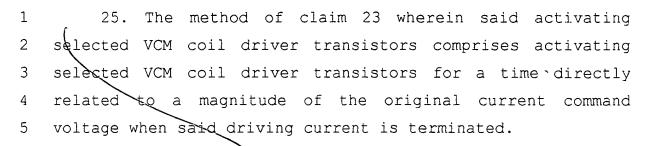
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- 26. The method of claim 23 wherein said activating selected VCM coil driver transistors comprises activating selected VCM coil driver transistors for a time directly related to a time that said flyback current is above a predetermined magnitude after said driving current has been terminated.
- 27. The method of claim 23 wherein said activating selected VCM coil driver transistors comprises activating selected VCM coil driver transistors for a time directly related to a magnitude of said driving current prior to when said driving current has been terminated.